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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRED DISCENZO, PETER UNSWORTH,
SARAT BABU VETCHA, KENNETH A. LOPARO,
CARL J. DISTER, and EDWARD J. TOMPKIN

Appeal 2007-1969
Application 09/866,414
Technology Center 2100

Decided: February 11, 2008

Before KENNETH W. HAIRSTON, LANCE LEONARD BARRY, and
HOWARD B. BLANKENSHIP, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1 to 37, 41 to 43, 45 to 49, 53 to 55, and 57 to 59. We have jurisdiction under 35 U.S.C. § 6(b).

We will sustain the rejections.

STATEMENT OF THE CASE

Appellants have invented a diagnostics and control system for controlling a motorized system based on the health of the motorized system.

The health of the motorized system is diagnosed according to a measured attribute associated with the motorized system. In response to the measured attribute, the diagnostic system provides a diagnostic signal to a controller which in turn provides a control signal to a motor drive of the motorized system (Figures 1 and 2; Specification 1, 5, and 16 to 18).

Claim 1 is representative of the claims on appeal, and it reads as follows:

1. A diagnostics and control system for controlling a motorized system and diagnosing the health thereof, comprising:
 - a controller that conveys a control signal to a motor drive to operate the motorized system in a controlled fashion; and
 - a diagnostics system integrated with the controller and the motor drive to comprise a single unit that diagnoses the health of the motorized system according to a measured attribute associated with the motorized system, the diagnostics system providing a diagnostic signal to the controller.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Gotou	US 4,933,834	Jun. 12, 1990
Ogi	US 5,419,197	May 30, 1995
Petsche	US 5,640,103	Jun. 17, 1997
Hays	US 6,260,004 B1	Jul. 10, 2001 (filed Dec. 31, 1997)
Grimm	US 6,369,472 B1	Apr. 9, 2002 (filed Apr. 20, 1998)

The Examiner rejected claims 1 to 7, 10, 11, 15, 31 to 34, 36, 37, 41 to 43, 45 to 47, 49, 53 to 55, and 57 to 59 under 35 U.S.C. § 103(a) based upon the teachings of Hays and Grimm.

The Examiner rejected claims 8, 9, 12 to 14, and 16 to 19 under 35 U.S.C. § 103(a) based upon the teachings of Hays, Grimm, and Ogi.

The Examiner rejected claims 20 to 30 and 35 under 35 U.S.C. § 103(a) based upon the teachings of Hays, Grimm, and Petsche.

The Examiner rejected claim 48 under 35 U.S.C. § 103(a) based upon the teachings of Hays, Grimm, and Gotou.

ISSUE

Appellants contend *inter alia* that Hays and Grimm, whether considered alone or in combination, do not provide “a single unit that comprises a controller, a diagnostics system and a motor drive, wherein the controller conveys a control signal to the motor drive based on a diagnostic signal generated by the diagnostics system” (Br. 7). Therefore, the issue is does the applied prior art teach or would the applied prior art have suggested to the skilled artisan a diagnostics system and a motor drive, wherein the controller conveys a control signal to the motor drive based on a diagnostic signal generated by the diagnostics system?

FINDINGS OF FACT

Appellants describe a control system 18 wherein a diagnostics system 70 is integrated with a controller 71 and a motor drive 60 to form a unit that diagnoses the health of a motorized pump system 12 according to a measured attribute from at least one of the many sensors (e.g., the flow sensor 38) located in the motorized pump system. After comparing the measured attribute to a setpoint 19, the diagnostics system 70 provides a diagnostic signal to the controller 71 which, in turn, provides a control signal to the motor drive 60 for the motorized pump system 12.

In the Figure 4a embodiment, for example, Hays describes a diagnostics and control system for controlling a motor 12 and a pump 14 in a motorized system, and for diagnosing the health thereof (col. 6, ll. 45 to 57; col. 15, ll. 5 to 8). A programmable logic controller (PLC) 240 receives as an input a measured attribute from valve position sensor 34 in the motorized system, and the output from the PLC 240 is to the motor controller (col. 8, ll. 16 to 23; col. 9, ll. 32 to 34; col. 16, ll. 26 to 41; col. 32, l. 64 to col. 33, l. 17).

Grimm was cited by the Examiner for a teaching of “a diagnostics system integrated with the controller and the motor drive to comprises [sic, comprise] a single unit” (Ans. 4).

The Examiner relied on Ogi for a teaching of “a diagnostics system comprising at least one of a neural network or an expert system, wherein frequency spectral analysis is performed using the at least one of a neural network or expert system” (Ans. 12).

The Examiner relied on Petsche for a teaching of “obtaining a space vector angular fluctuation from a current signal relating to operation of the motor in order to detect a fault in the motor” (Ans. 15).

The Examiner relied on Gotou for a teaching of “use of a P-I controller in a velocity feedback loop to generate the current reference signal” (Ans. 17).

PRINCIPLES OF LAW

The Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If that burden is met, then the burden shifts to the Appellant to overcome the *prima facie* case with argument and/or evidence. *See Id.*

The Examiner’s articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007).

During ex parte prosecution, claims must be interpreted as broadly as their terms reasonably allow since Applicants have the power during the administrative process to amend the claims to avoid the prior art. *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989).

ANALYSIS

As indicated *supra* in the findings of fact, Hays describes in Figure 4a “a single unit that comprises a controller, a diagnostics system and a motor drive, wherein the controller conveys a control signal to the motor drive based on a diagnostic signal generated by the diagnostics system” as set forth in representative claim 1 on appeal. Nothing in claim 1 on appeal limits the broadly claimed “motor drive” to a motor drive that can provide “three-phase electric power from an AC power source to a motor via cables in a controlled fashion (e.g., at a controlled frequency and amplitude) in accordance with a control signal received from a diagnostics and control system” (Br. 7). More importantly, the broadly claimed “motor drive” in claim 1 is not limited to providing “motor current, voltage, and/or torque information to the diagnostics and control system” (Br. 7). In view of the teachings of Hays, the teachings of Grimm are merely cumulative to the teachings already found in Hays. Accordingly, we agree with the

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Examiner's finding of obviousness for claims 1 to 7, 10, 11, 15, 31 to 34, 36, 37, 41 to 43, 45 to 47, 49, 53 to 55, and 57 to 59 (Ans. 3 to 12).

Turning to the remainder of the claims on appeal (i.e., 8, 9, 12 to 14, 16 to 30, 35, and 48), we find that the Appellants did not provide any patentability arguments for these claims apart from the arguments presented for claim 1 (Br. 7 to 9; Reply Br. 5 and 6). For this reason, claims 8, 9, 12 to 14, 16 to 30, 35, and 48 will fall with claims 1 to 7, 10, 11, 15, 31 to 34, 36, 37, 41 to 43, 45 to 47, 49, 53 to 55, and 57 to 59.

CONCLUSION OF LAW

The Examiner has established the obviousness of claims 1 to 37, 41 to 43, 45 to 49, 53 to 55, and 57 to 59.

ORDER

The obviousness rejection of claims 1 to 37, 41 to 43, 45 to 49, 53 to 55, and 57 to 59 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

tdl/gvw

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